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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,460	07/09/2001	Jun-hyeong Kim	Q63313	4214

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EXAMINER

PATEL, DHAIRYA A

ART UNIT	PAPER NUMBER
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2151

DATE MAILED: 09/27/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/900,460

Applicant(s)

KIM, JUN-HYEONG

Examiner

Dhairya A Patel

Art Unit

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/14/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Application Number 09/900,460 was filed on 07/09/2001. Claims 1-20 are subject to examination.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Method for operating the Gateway".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 7, 8, 12, 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the claims mentioned above, the applicant is stating, "control request". It is unclear to the examiner as to "control request" means. In the specification, the applicant does not mention anything about what "control requests" means.

In the claims mentioned above, the applicant is stating "interruption request". It is unclear to the examiner as to "interruption request" means. In the specification, the applicant does not mention anything about what "interruption requests" means.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1,2,3,6,7,9-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Bhatia et al. U.S. Patent # 6,052,803

5. As per claim 1, Bhatia teaches a gateway (fig. 1, element 305) comprising:

- a first interface which communicates with information appliances (Fig. 1, element 10) connected to an internal network (Fig. 1, element 10a,b,c,d, column 10 lines 26-31);

- a second interface which communicates with information appliances connected to an external network (Fig.1, element 60, column 10 lines 26-31); and

- a controller (Fig. 2, element 300) which, if a control request with respect to either of the information appliances (Fig. 2, element 10a,b,c,d) connected to the internal network (Fig. 2, element 10a,b,c,d) is received from the information appliances connected to the external network(Fig. 2, element 60), requests a function performance to a corresponding information appliance through the first interface according to requested control contents. (column 11 lines 18-21).

In this figure 1, the reference number 305 is an ISDN Router (gateway), which is connected with workstations 10 (information appliances) which make up an internal network. The remote network 70 represents an external network. The ISDN LAN modem (controller) which examines all the packets incoming (control request) from remote network (external network) and routes all such packets (function performance) destined for any of the workstation on the static subnet to the LAN (first interface).

6. As per claim 2, Bhatia teaches a gateway claimed in claim 1, wherein the controller includes:

- a DHCP server (column 43 line 44-45) which allocates and manages different private IP addresses(column 43 lines 55-56) in accordance with a private IP address allocation request from the information appliances connected to the internal network(column 43 , and receives host names from the information appliances allocated with the private IP addresses(column 43 lines 52-58) (column 44 lines 6-8);

- a DNS server(column 43 lines 44-45) which builds a database(column 43 lines 46-47) in order for the host names and the private IP addresses to the associated in response to an update request from the DHCP server; and (column 43 lines 52-58)

- an application proxy server which transmits a list of the information appliances connected to the internal network (column 43 lines 53-55) in accordance with an access request of the information appliances connected to the external network (column 43 line 66, column 44 line1), and transmits contents which control an information appliance selected from the transmitted list (column 43 lines 58-62), and if a control command is transmitted, a requests a function performance to a corresponding information appliance according to the requested control command. (column 43 lines 58-66).

7. As per claim 3, the gateway claimed in claim 2, wherein the private IP addresses allocated to the information appliances connected to the internal network by the DHCP are the C class addresses defined by the Internet Assigned Numbers Authority (IANA). (column 18 lines 27-40).

8. As per claim 6, the gateway as claimed in claim 2, wherein the DNS server

(column 45 lines 36-37) if any one of the information appliances connected to the internal network (column 45 lines 37-39) makes an inquiry about a public IP address through the domain name with respected to an information appliance connected to the external network, provides the requested public IP address through an inquiry about the public IP address to an authorized DNS server connected to the external network. (column 45 lines 44-53).

9. As per claim 7, the gateway as claimed in claim 2, wherein the application proxy server, if a response to the control request (column 44 line 51) is transmitted from the corresponding control requested information appliance connected to the internal network (column 44 line 54-55), notifies the response result to the control-requesting information appliance connected to the external network (column 44 line 51-57).

10. As per claim 9, the gateway claimed in claim 1, wherein the controller, if a data packet (column 12 line 15) to be transmitted from one of the information appliances connected to the internal network (column 12 line 17) to one of the information appliances connected to the external network (column line 17) is transferred to the first interface, changes an origination address (column 12 line 20-21) and a port from a private IP address (column 12 line 19-20) and a port to a public IP address and a port of the gateway to be outputted to the external network through the second interface, (column 12 lines 15-23) and, if a data packet having a destination address and a port as the public IP address of the gateway is transferred from the external network to the second interface in response to the output, changes the public IP address (column 12 lines 12-13) and the port to the private IP address (column 12 lines 11-12) and the port

of the corresponding information appliance to be outputted through the first interface.(column 12 lines 8-15).

11.As per claim 10, a method for operating a gateway (fig. 1 305) having a first interface which communicates with information appliances connected to the internal network (Fig. 1 10a,b,c,d, column 10 lines 26-31), a second interface which communicates with information appliances connected to an external network, (Fig.1 60, column 10 lines 26-31) and a controller (Fig. 2 300) which communicates with the information appliances connected to the internal and the external networks, comprising steps of:

- providing information on the information appliances (Fig. 2 10a,b,c,d) connected to the internal network if an access request is transmitted from an information appliance connected to the external network (Fig. 2 60); and

- requesting a function performance to an appliance according to requested control contents if a control request with respect to the information appliances connected to the internal network is received from the information.

(column 11 lines 18-21)

12.As per claim 11, the method as claimed in claim 10, wherein the step for providing the information on the information appliances connected to the internal network(column 43 lines 53-55) in response to the access request from the information appliance connected to the external network(column 43 line 66, column 44 line 1) includes steps of:

-providing a list of the information appliances connected to the internal network;(column 43 lines 53-55) and

-providing, if any one of the information appliances is selected from the provided list, contents for controlling the selected information appliance.(column 43 lines 58-66).

13.As per claim 12, the method as claimed in claim 10, further comprising a step of, if a response according to the request of the function performance from the information appliance connected to the internal network is transferred(column 44 line 54-55), transmitting a result to the control-requesting information appliance connected to the external network(column 44 line 51-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14.Claim 4,5,13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatia et al. U.S. Patent # 6,052,803 (hereinafter Bhatia) in view of Huitema et al. U.S. Patent # 6,178,451 (hereinafter Huitema)

As per claim 4, Bhatia teaches the gateway claimed in claim 2, but fails to teach the DNS server builds the database by combining a domain name of the gateway and the host names of the information appliances connected to the internal network at a

home, the domain name being registered in advance in an authorized DNS server to the external network.

Huitema teaches the DNS server (column 3 line 34) builds the database by combining a domain name of the gateway (column 3 line 35-36) and the host names of the information appliances connected to the internal network at a home, the domain name being registered in advance in an authorized DNS server to the external network. (Column 3 lines 41-46). Therefore, it would have obvious to one skilled in the art at the time of the invention was made where DNS server builds a database by combining the domain name and the host name of the information appliances and to register the domain name in advance in the authorized DNS server connected to the external network. The motivation for doing so would have been because a computer has access to the authorized DNS server through the internet backbone if it needs to retrieve information from the DNS server, since the domain name is registered in advance in the authorized DNS server connected to the external network which could be a remote network or Internet (column 3 lines 47-49).

15. As per claim 5, Bhatia teaches the gateway as claimed in claim 4, wherein the DNS server (column 43 line 52), if anyone of the information appliances connected to the internal network (column 43 lines 50-51) makes an inquiry about a private IP address through the host name (column 43 line 51) with respect to another appliance connected to the internal network, provides the requested private IP address with reference to the database (column 43 line 52). (Column 43 lines 52-58).

Although Bhatia is silent on making an inquiry about a private IP address, it is inherent that in order to provide a suitable machine name to IP address resolution it has to make an inquiry about the IP address.

16. As per claim 13, Bhatia teaches the method as claimed in claim 10, but fails to teach a step of registering a domain name of the gateway and a public IP address of a system to be associated to each other on an initialization of the system, the domain name being registered in advance in a DNS server authorized in the external network.

Huitema teaches a step of registering a domain name of the gateway and a public IP address of a system to be associated to each other (column 3 lines 34-37) on an initialization of the system, the domain name being registered in advance in a DNS server authorized in the external network (column 3 lines 41-46).). Therefore, it would have obvious to one skilled in the art at the time of the invention was made where registering the domain name of the gateway and a public IP address of a system and to register the domain name in advance in the DNS server authorized in the external network. The motivation for doing so would have been because a computer has access to the DNS server authorized through the internet backbone if it needs to retrieve information from the DNS server, since the domain name is registered in advance in the DNS server authorized in the external network which could be a remote network or Internet. (Column 3 lines 47-49),

17. As per claim 14, Bhatia teaches the method as claimed in claim 13, further comprising steps of

-allocating, if the public IP address of the system is registered in authorized DNS server connected to the external network (column 45 line 44-53), different private IP addresses in response to requests of private IP address allocations from the information appliances connected to the internal network (column 44 lines 51-57); and

-receiving host names from the information appliances allocated with the private IP addresses and connected to the internal network (column 44 lines 29-32), and building a database in order for the private IP addresses and the host names to be associated to each other(column 44 lines 51-54).

18. As per claim 15, Bhatia teaches the method claimed in claim 14, wherein appliances allocated with the private IP addresses and connected to the internal appliances have C class address formats defined by Internet Assigned Numbers Authority (IANA). (Column 18 lines 27-40).

19. As per claim 16, Bhatia teaches the method claimed in claim 14, but fails to teach the step for building the database builds the database in names combined with the domain name of the gateway registered in advance in the authorized DNS server connected to the external network and the host names of the respective information appliances connected to the internal network.

Huitema teaches the step for building the database builds the database (column 3 line 35) in names combined with the domain name of the gateway registered in advance (column 3 line 36) in the authorized DNS server connected to the external network (column 3 line 41-43) and the host names of the respective information appliances connected to the internal network. (column 43 line 34-46). Therefore it would

have been obvious to one skilled in the art to build the database containing the domain name of the gateway and host names of the respective information appliances connected to the internal network. The motivation for doing so would have been to keep track of the domain name of the gateway and the host name for each information appliances in case of conflict of host name or in order to send packets or messages or retrieve packets.(column 3 lines 33-37).

20. As per claim 17, Bhatia teaches the method claimed in claim 14, further comprising a step of providing, if an inquiry about a public IP address is made through the domain name with respect to the information appliance connected to the internal network at a home (column 45 lines 36-37), the public IP address through an inquiry to the authorized DNS server connected to the external network. (column 45 lines 44-53).

21. As per claim 18, Bhatia teaches the method as claimed in claim 17, further comprising steps of:

-changing, if a data packet(column 12 line 15) to be transmitted from the information appliance receiving the public IP address of the information appliance connected to the external network (column 12 line 17) to the external information appliances connected to the external network is transferred to the first interface, origination address (column 12 line 20-21) and port from private IP address (column 12 line 19-20) and port to the public IP address and port of the gateway, and outputting the changed origination address and port to the external network through the second interface; (column 12 line 15-23) and

-changing, if a data packet having the public IP address of the gateway as destination address and port is transferred to the second interface from the external network in response to the data packet, the public IP address (column 12 lines 12-13) and port into the private IP address (column 12 lines 11-12) and port of a corresponding information appliance connected to the internal network, and outputting the converted private IP address and port through the first interface. (Column 12 lines 8-15).

22. As per claim 19, Bhatia teaches the method as claimed in claim 14, further comprising a step of providing, if a private IP address is inquired through a host name (column 43 line 51) from any one of the information appliances connected to an internal network (column 43 lines 50-51) at home, a requested private IP address with reference to the database. (Column 43 line 52) (column 43 lines 52-58).

Claims 8,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatia et al. U.S. Patent # 6,052,803 (hereinafter Bhatia) in view of Huitema et al. U.S. Patent # 6,178,451 (hereinafter Huitema) and further in view of Asami et al. U.S. Patent Publication # 2001/0023459 (hereinafter Asami).

23. As per claim 8, Bhatia and Huitema teaches the gateway as claimed in claim 2, but fails to teach the DHCP server, if an interruption request of the use of a private IP address is transmitted from an information appliance connected to the internal network, requests the DNS server to delete the private IP address of the corresponding information appliance and contents related to the host name from the database.

Asami teaches the DHCP server, if an interruption request of the use of a private IP address is transmitted from an information appliance connected to the internal

network, requests the DNS server to delete the private IP address of the corresponding information appliance and contents related to the host name from the database.(claim 8 from the claims page).

Asami teaches a DHCP server which receives an request of IP address release, which could be (private IP address) or (public IP address) command from the terminal (internal network). and it sends a IP address return command to DNS server to make the DNS server delete the IP address to the corresponding to the FQDN (database) of the DNS server.

Therefore it would have been obvious to one skilled in the art to request the use of a private IP address from an information appliance and then requests the DNS server to delete private IP address of the following appliance and contents related to the host name from the database. The motivation for doing so would have been to avoid having IP address conflict in which it would have been sharing same IP address. (paragraph 54 lines 3-5).

24. As per claim 20, Bhatia and Huitema teaches the method as claimed in claim 14, but fails to teach a step of deleting, if an interruption request of the use of a private IP address is transferred to the first interface from an information appliance connected to the internal network, the private IP address and contents of a host name of a corresponding information appliance from the built database (claim 8).

Asami teaches a step of deleting, if an interruption request of the use of a private IP address is transferred to the first interface from an information appliance connected to the internal network, the private IP address and contents of a host name of a

corresponding information appliance from the built database. (Claim 8 from the claims page).

Therefore it would have been obvious to one skilled in the art to request the use of a private IP address from an information appliance connected to the internal network and to delete private IP address and the contents of host name of a corresponding information appliance from the built database. The motivation for doing so would have been to avoid having IP address conflict in which it would have been sharing same IP address. (paragraph 54 lines 3-5).

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

26. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the applicant (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

27.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhairya A Patel whose telephone number is 703-305-0457. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 703-305-6687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2151

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAP



FRANTZ B. JEAN
PRIMARY EXAMINER